

1 **Claims**

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3 1. A downhole tool for use in a cased or lined well
4 bore, the tool comprising a body connectable in a
5 work string, a fluid flow path through the tool body
6 and a barrier located at an outer surface of the
7 tool, wherein the barrier is actuatable to control
8 fluid flow passing the tool and selectively divert
9 fluid flow through the flow path.

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11 2. A downhole tool as claimed in Claim 1 wherein the
12 barrier comprises a resilient member which when acted
13 upon by actuating means deforms to extend the member
14 towards a wall of the well bore.

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16 3. A downhole tool as claimed in Claim 1 or Claim 2
17 wherein the barrier includes a surface engageable with
18 the well casing or liner to provide a seal such that
19 fluid is substantially restricted from passing the
20 tool.

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22 4. A downhole tool as claimed in Claim 3 wherein the
23 surface is a wiper so that as the tool is moved
24 within the well bore the casing or liner is cleaned
25 when the surface is engaged.

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27 5. A downhole tool as claimed in any one of Claims 2 to
28 4 wherein the actuating means is a hydraulic
29 actuator.

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31 6. A downhole tool as claimed in Claim 5 wherein the
32 resilient member is initially held in compression by
33 a retainer and a piston member releases the retainer,
34 to cause the resilient member to expand.

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2 7. A downhole tool as claimed in Claim 6 wherein, well
3 fluid within the well bore acts as the hydraulic
4 fluid to operate the actuating means.

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6 8. A downhole tool as claimed in any one of Claims 2 to
7 4 wherein the actuating means includes a ball valve.

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9 9. A downhole tool as claimed in Claim 8 wherein the
10 barrier is actuatable through a drop ball released at
11 the surface and carried through a bore in the work
12 string and selectively actuatable as the drop ball is
13 deformable.

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15 10. A downhole tool as claimed in any preceding Claim
16 wherein the tool includes a plurality of fluid flow
17 paths through the tool body.

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19 11. A downhole tool as claimed in Claim 10 wherein one or
20 more of the fluid flow paths includes a filter so
21 that well fluid can be filtered downhole.

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23 12. A downhole tool as claimed in Claim 10 or 11 wherein
24 one or more of the fluid flow path forms a hydraulic
25 line for the actuation of a feature of the downhole
26 tool.

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28 13. A downhole tool as claimed in any one of Claim 10 to
29 12 wherein the one or more fluid flow paths have an
30 inlet and an outlet arranged on an outer surface of
31 the tool on either side of the barrier.

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33 14. A downhole tool for collecting loose debris particles
34 within a well bore, the tool comprising a body

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1 connectable in a work string, a fluid flow path
2 through the tool body including means for filtering
3 debris particles and a barrier located at an outer
4 surface of the tool, the barrier comprising a
5 resilient member, wherein the barrier deforms on
6 actuation to control fluid flow passing the tool and
7 selectively divert fluid flow through the flow path.

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9 15. A downhole tool as claimed in Claim 14 wherein the
10 filtration means is a screen sized to prevent
11 particles of a predetermined size from passing
12 therethrough.

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14 16. A downhole tool as claimed in Claim 14 or Claim 15
15 wherein the tool includes a trap for collecting
16 debris.

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18 17. A downhole tool as claimed in any one of Claims 14 to
19 16 wherein the resilient member is a rubber ball.

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21 18. A downhole tool as claimed in any one of Claims 14 to
22 16 wherein the resilient member is an inflatable
23 bladder.

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25 19. A downhole tool as claimed in any one of Claims 14 to
26 18 including the features of any one of Claims 3 to
27 13.

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29 20. A method of controlling fluid flow in a well bore,
30 comprising the steps:

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32 (a) running a tool having an actuatable barrier on a work
33 string downhole;

1 (b) creating relative movement between the fluid in the
2 well bore and the tool;

3 (c) actuating the barrier to control fluid flow passing
4 the tool by varying the cross sectional area of the
5 annulus between the tool and the wall of the well
6 bore.

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8 21. A method as claimed in Claim 20 further including the
9 step of selectively diverting fluid flow through a
10 flow path in the tool.

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12 22. A method as claimed in Claim 20 or 21 wherein the
13 method includes the step of actuating the barrier
14 until the barrier sealingly engages the wall of the
15 well bore and thus substantially restricts fluid flow
16 passing the tool.

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18 23. A method as claimed in any one of Claims 20 to 22
19 wherein the method includes the step of filtering the
20 fluid flow through the flow path in the tool.

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